

REMARKS

Claims 1-54 are pending in the application. The Examiner allowed claims 45-54, and rejected claims 1-44. The Examiner's objections and rejections are addressed below in substantially the same order as in the office action.

REJECTIONS UNDER 35 USC § 103

The Examiner (I) rejected Claims 1-6, 9-10, 13-16, 18-21, 24-25, 28-29, 32-35, 37, 39 and 42-44 under 35 U.S.C. 103(a) as being unpatentable over Bouyoucos (US 2004/0013041 A1) in view of Sanchez, (ii) rejected Claims 7-8, 17, 26-27, 36 and 38 as being unpatentable over Bouyoucos in view of Sanchez as applied to the claims above and further in view of Williams; and (iii) rejected Claims 11-12, 22-23, 30-31 and 40-41 as being unpatentable over Bouyoucos in view of Sanchez as applied to the claims above, and further in view of Nooteboom.

Bouyoucos: US2004/0013041 (Bouyoucos Application)

The Bouyoucos Application discloses a small boat or launch that provides a platform for an acoustic source array of airguns (Abstract). The Application expressly defines the invention as relating to underwater acoustic signal generation for the location of objects, such as submarines. To Applicant's reading, other than for references to prior patents, the Bouyoucos does not discuss in any depth the merits of a vertical source array or compare a vertical source array to a horizontal source array. Rather, the Bouyoucos Application focuses primarily, if not exclusively, on the design of a mobile platform for deploying a source array. Applicant finds no hint or suggestion to combine the disclosed vertical array with any other array configuration.

Bouyoucos: WO97/06452 (Bouyoucos WO Patent)

The Bouyoucos WO Patent discloses utilizes a vertical array of air gun (Abstract). As discussed previously, Bouyoucos explicitly teaches that the disclosed system is an advancement over conventional horizontal arrays because the disclosed system does not need a distribution of air gun volumes as used in horizontal arrays.

Independent Claims 1,13,24, 34, and 44

The Examiner has rejected the independent claims 1,13,24,34 and 44 as being unpatentable over the Bouyoucos Application in view of Sanchez. The Bouyoucos Application does not disclose that the sources are disposed at a substantially common depth. Also, The Bouyoucos Application expressly states that the disclosed system is for locating underwater objects such as submarines. In combining the Bouyoucos Application with Sanchez, the Examiner contends that the way in which the acoustic signals are used does not affect the combination of references in regards to making an air gun source. Applicant, however, respectfully submits that since the configuration of an air gun plays a significant factor in the acoustical signal that is generated, one skilled in the art would not combine teachings having distinctly different applications. Thus, the independent claims are not rendered obvious by the combined Bouyoucos and Sanchez because (i) these references are directed to different applications, and (ii) there is no suggestion or stated desirability to combine these two references. In any case, Applicant has amended the independent claims to clarify that the claimed inventions are intended for locating subsurface structures such as hydrocarbons.


Accordingly, Applicant respectfully submits that independent claims 1,13,24,34 and 44 and all claims depending therefrom are in condition for allowance.

CONCLUSION

For all the foregoing reasons, Applicant submits that the application is in a condition for allowance. Applicant files this Paper within the two-month time for reply to obtain an Advisory Action, if needed. The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. 13-0010 (IO-1065).

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I certify that this correspondence, along with any papers referred to as being attached or enclosed, is being transmitted by facsimile to the attention of Commissioner for Patents, facsimile number 571.273.8300 on this 22 day of August 2005.


Margaret A. Pruitt